MSA, P.C.
5033 Rouse Drive, Virginia Beach, VA 23462-3708
Office (757) 490-9264 • Fax (757) 490-0634
www.msaonline.com

July 14, 2014

Robert E. Smithson, Jr.
Environmental Specialist Senior
Virginia Department of Environmental Quality - TRO
5636 Southern Boulevard
Virginia Beach, Virginia 23462

RE: VPA Application Review Comments
Del Monte Fresh Production, Inc. - Permit No. VPA01057
MSA Project #14068J

Dear Mr. Smithson,

We have reviewed DEQ comments (6/26/14) to the VPA application package for the above-referenced facility. The following are responses listed in order to coincide with your comments. An original Form A signature Page is attached.

Form C

1. *Pages C.I.3-C.I.7.* New data will be provided as it becomes available.

2. *Page C-II.3, Item 7.* **Appendix B**. New data will be provided as it becomes available.

3. *Page C-II.2*, Item 3 **Appendix C**. The revised Appendix C is attached and includes the spray field acreage in the text as well as being previously shown on the map unit legend.

4. *Page C-II.3*, Item 8 **Appendix D**. Calculations will be provided when data becomes available.

5. *Hydraulic Loading Calculations* – **Appendix D**. Data used in the calculations was from most recent operation in 2011. As requested, new data will be provided when it becomes available.

6. *Nutrient Management Plan* – A NMP will be provided when it becomes available.

Please do not hesitate to contact me with any questions or clarification required on this project.

Sincerely,

Charles H. Hall, P.G., Hydrogeologist
Director of Environmental Sciences

Attachments

TURF MAINTENANCE

Tall fescue grass is maintained on the spray field. The grass cover provides uptake of potential nutrients in the spray water, increases evapotranspiration, and thus disposal of the water. The grass also provides erosion and sediment control to keep soils onsite. The grass and grass root matt also increase the detention time of the spray water in the topsoil where natural processes can attenuate nutrients. No specific yield is anticipated from the cover crop; as such, tissue testing is not required.

Table 1 provides a summary of field maintenance.

Activity	Spring (April)	Summer	Fall (September)	Winter
Soils Sampling	X		X	
Aeration	X			
pH Amendment	X		X	
Pesticide (Weed) Application	X			
Cutting	X	X	X	
Irrigation		X	X	
Fertilizing			X	
Thatching			X	
Reseeding			X	

Soils are tested bi-annually (in April and September). During the April sampling event the turf is evaluated with respect to weed coverage. When coverage exceeds 25%, weed control is prescribed in keeping with best management practices. Specific product will be determined based on plant materials found to be present. Application will be in keeping with product labeling and best management practices.

Application of wastewater and amendment may require the use of heavy equipment on the field. If compaction is observed, aeration is best conducted in the spring.

The soil pH at land application site shall be adjusted upward with lime, and if necessary downward with elemental sulfur, to achieve and maintain a pH range approximating 5.8 – 6.5 S.U.

Soil amendment with gypsum (calcium sulfate) at the rate of 10 to 15 lbs. per 100 sq. ft. shall be made on the spray application site in the spring if the Exchangeable Sodium Percentage (ESP) in the soil is equal to or greater than 15.

During the September sampling event the turf is evaluated with respect to health, density and thatch.

- If turf health is found to be substandard, amendments may be prescribed according to recommendations provided by A&L Eastern Laboratories, Inc. located in Richmond, Virginia. Amendments shall be applied according to recommendations

and best management practices. To prevent brown patch, nitrogen fertilizers shall be kept to a minimum.

- If turf is found to lack sufficient density, the field is reseeded as per recommendations for reseeding of established turfs.
- Generally it is not necessary to thatch fescue turf however if the thatch matt is found to be inhibiting water penetration thatching will be prescribed followed by reseeding at the specified rate for established turfs.

During the active growing season the turf is cut on a weekly basis to maintain a turf height of 2.5 - 4". Spray application is monitored to ensure adequate coverage. Consistent coverage and the prevention of wet spots along with management of nitrogen is the primary control for brown patch.

SPRAY FIELD LAND APPLICATION METHODS AND EQUIPMENT

The method for land application of waste wash water used at this facility will be a piped spray irrigation system and supplemented by a truck mounted spreader rack if necessary. Upon the completion of each packing work day, 2,500 gallons per day can be sprayed to the field (Figure 5) through a piped spray irrigated system. The field contains a 50ft buffer around it. If needed, wastewater is transferred from the storage tanks to a 3,000 gallon capacity spray truck using the same 48gpm transfer pump. The spray field is 4.1 acres.

Each spray event will be applied to one of the spray field discharge lines. Each subsequent spray event will utilize the next sequential spray field discharge line such that the entire field will be covered over the span of 3 spray events. Application rates and active lines are adjusted by controller valves.

Over application is prevented by the operator visually inspecting and walking on the spray field to verify that the field appears dry enough to receive the wastewater. If the field appears to be wet, no spraying will be performed.

The irrigation system is reliable and has not had any major issues during operation in the past. The irrigation system will require onsite storage of additional piping, valves, controllers, and equipment for repair. In the event that a repair needs to be done to the spray irrigation system, the spray truck may be utilized to land apply wastewater along the same discharge lines. Application rates will be adjusted by speed of the spray trucks. Truck mounted spreader rack systems are very reliable for spray irrigation systems in that they are simple and have few parts. In the event that a spray truck becomes in need of repair, or during wet periods when spraying cannot occur, the 46,000 gallon storage capacity is used to hold excess wastewater until it can be applied. If the transfer pump goes down, one-half of the volume of the vertical storage tanks can still gravity drain into the trucks providing at least 23,000-gallons of holding capacity. For longer duration mechanical problems with the spray truck, a backup spray truck from another spray irrigation operation will be used. Since the spray field has excess capacity, the application rate can be increased so that the truck will have sufficient time between spray events.

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM A
ALL APPLICANTS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I further certify that I am an authorized signatory as specified in the VPA Permit Regulation (9VAC25-32).

Signature:	Paul J. Rice	Date: 5/30/14
Printed Name:	Paul J. Rice	
Title:	S.R.V.P. N.A. Operations	

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Maria R. Nold
Regional Director

June 26, 2014

Mr. Charles H. Hall, Director of Env. Sciences
MSA, P.C.
5033 Rouse Dr.
Va. Beach, Va 23462-3708

RE: VPA 01057 Application from Del Monte Fresh Production, Inc. Processing Plant – Incomplete Application

Dear Charles:

The referenced application received June 10, 2014 has been reviewed for completeness and accuracy. Upon this review, we find that some additional information are required in order for us to deem the client's application complete and draft a permit. Please address the following items:

Form A signature page appears to be a copy. DEQ requires the original signature of Mr. Rice. Sr. V.P. on this form.

Form C, Section C-I:

Pages C.I.3 through C.I.7- As indicated, data are from 2011. Recent data are required when it becomes available. If not performed this summer, a special condition will be included in the permit which requires analysis of parameters found on these pages. Note: zinc, copper, magnesium, lead and possibly other parameters are marked believed absent which we know is not the case from previous sample events for this site.

Form C, Section C-II.:

Page C-II.3. Item#7: **Appendix B**: As indicated, data are from 2008. Recent data are required when it becomes available. If not performed this summer, a special condition will be included in the permit which requires analysis of parameters found on these pages. This applies to the cull fields as well.

Page C-II.2, Item#3: **Appendix C**: Number of acres of the wastewater spray field should be mentioned in this dialogue. Acres can only be found mentioned in the map unit legend.

Page C-II.3, Item#8: **Appendix D**: Land area determination/site life calculations- please provide these calculations (example attached) when data becomes available. If not provided this summer, a special condition will be included in the permit which requires analysis and calculation updates to this section.

Hydraulic Loading Calculations- **Appendix D**: As indicated, data are from 2011. Recent data are required when it becomes available. If not performed this summer, a special condition will be included in the permit which requires current information for these pages

Please provide a copy of a current, approved **nutrient management plan (NMP) for spray and cull fields when it will becomes available.** It should show, but not be limited to nutrient management details for applicable crops for each. We are particularly interested in discussions on sodium and copper residual levels in the field(s). Plan of action for problems (or potential problems) identified. Salts in irrigation water can be detrimental to plant growth if its concentration is too high, preventing water from being easily absorbed by the grass, causing drought-type symptoms. Tall Fescue is only moderately tolerant to salts. The plan should also recommend supplemental fertilizer in the summer to keep grasses healthy and viable, since the irrigation wastewater is generally nutrient poor. The plan will include, but not be limited to a discussion of PAN. The NMP should be approved by a certified nutrient mgt. planner.

Please be aware that additional technical information *may* be required in order for us to draft your new VPA permit.

Please make the necessary corrections and/or provide the additional information outlined above by **July 30, 2014, if possible**. Processing of your VPA Permit application will not begin until both our administrative and technical review are complete. Please **submit a revised original and one (1) copy to this office (extra copy unnecessary if it can be provided on disc.**

Good job on the application with what data you had. If you have any questions, please feel free to give me a call.

Sincerely,

Robert E. Smithson, Jr.
Environmental Specialist Sr.

cc: DEQ ECM File
Del Monte Fresh Production, J. D'Ottavio, V.P. Operations
MSA – Morgan Evans

MSA, P.C.
5033 Rouse Drive, Virginia Beach, VA 23462-3708 • (757) 490-9264 • (757) 490-0634 [fax] • www.msaonline.com
Office in Hampton Roads
Environmental Sciences • Planning • Surveying • Civil & Environmental Engineering • Landscape Architecture

June 10, 2014

Mark Sauer
VPA Program
Virginia Department of Environmental Quality
5636 Southern Boulevard
Virginia Beach, Virginia 23462

RE: VPA Application
Virginia Pollution Abatement Permit VPA01057
Del Monte Fresh Production, Inc. - Processing Plant
Mappsville, Virginia
MSA Project #14068J

Dear Mr. Sauer,

Thank you for your coordination assistance at the joint meeting between DEQ and VDH with the property Owner representatives. As agreed upon during that meeting, we are submitting an application package for the facilities' VPA permit to dispose wash water and tomato culls. Attached please find a completed application for the renewal of the existing VPA permit. Note that the Nutrient Management Plan for the spray and cull fields is currently being prepared by a certified NMP Planner. The plan will be forwarded to your office for inclusion with the application package as soon as it is completed.

Please understand that to expedite the review process, the Owner had already submitted an application fee ($10,500) to the DEQ Receipts Control while the application package was being prepared. We understand now that since this permit is to be administratively continued, the Owner will be billed later for the annual permit maintenance fee. In that event, we presume that the submitted fee would be returned. Please do not hesitate to contact me if there are any questions regarding this application.

Sincerely,

Charles H. Hall, P.G., Hydrogeologist
Director of Environmental Sciences

Copy: Del Monte Fresh Production

Attachment: Application Package

Permit Application Fee Form (and copy of submitted payment check)
Authorization to Bill Applicant for Public Notice
Permit Maintenance Fee Form

Section I
Virginia Pollution Abatement Application Form A

Section II
Virginia Pollution Abatement Application Form C

Section III
Appendices

- Appendix A – Figures
  - Figure 1 – Site locations and Topographic Map
  - Figure 2 – Facility Schematic
  - Figure 3 – Site Features
  - Figure 4 – Land Application Methods
  - Figure 5 – Site Overview Map
- Appendix B – Lab Results
- Appendix C – Agronomic Practices
- Appendix D – Calculations
- Appendix E – Additional Notes
- Appendix F – References

REC 6/27/14

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM A
ALL APPLICANTS

1. Facility	Name	Del Monte Fresh Production, Inc. Processing Plant
	County/City	Accomack County
	Address	15141 Finney Mason Drive, Bloxom, Virginia 23308
2. Owner	Legal Name	Del Monte Fresh Production, Inc.
	Mailing Address	3306 Sydney Road Plant City, FL 33566
	Telephone Number	813-752-5145 ext. 202
	Email address	jdottavio@freshdelmonte.com
3. Owner Contact	Name	Joseph D'Ottavio
	Title	VP Operations NA S.E. Region
	Mailing Address	3306 Sydney Road Plant City, FL 33566
	Telephone Number	813-716-2745
	Email address	jdottavio@freshdelmonte.com

4. Existing permits (e.g., VPA, VPDES; VWP, RCRA; UIC); other:

Agency	Permit Type	Permit Number
VDEQ	VPA	VPA 01057
VDH-ODW	Transient non community water supply	PWSID 3001551
VDEQ	GWP	GW0047300

5. Nature of Business: The establishment is seasonally engaged in performing services on crops (tomatoes), subsequent to their harvest, with the intent of preparing them (via washing, disinfection and packaging) for further market distribution or processing.

SIC Code(s):	0723		

6. Type of Waste:

(check box as appropriate)	Proposed	Existing
Animal Waste (complete Form B)	☐	☐
Industrial Waste (complete Form C)	☐	☒
Land Application of Municipal Effluent (complete Form D, Part I)	☐	☐
Land Application of Biosolids/Sewage Sludge (complete Form D, Part II)	☐	☐
Reclamation and/or Distribution of Reclaimed Wastewater (Application Addendum)	☐	☐

7. General Location Map:

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM A
ALL APPLICANTS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I further certify that I am an authorized signatory as specified in the VPA Permit Regulation (9VAC25-32).

Signature:	Paul J. Rice	Date: 5/30/14
Printed Name:	Paul Rice	
Title:	Sr. Vice President	

VP

VIRGINIA POLLUTION ABATEMENT

PERMIT APPLICATION

FORM C INDUSTRIAL WASTE

Department of Environmental Quality

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION

FORM C

INDUSTRIAL WASTE

PART C-I General Information

1. Facility Name: Del Monte Fresh Production, Inc. Processing Plant

2. Source(s) of Waste

a. Provide a narrative which explains your facility operations and how wastes are produced.

Tomatoes are harvested and transported to the processing facility via 1,000 pound transport containers. The product is dumped, via hydraulic lift, from the containers into a wash flume. The wash flume is filled with groundwater from an onsite well. The water is further heated to the approximate temperature of the product and treated with sodium hypochlorite to a concentration of 150 ppm. Tomatoes are further rinsed, sorted graded and packaged for distribution. On average 15,000 gallons per day wash water was generated in 2011. Spent wash water is land applied.

b. Attach a line drawing of the facility in block diagram for showing the manufacturing or processing operations and all points where wastes are produced.

(See Appendix A – Figure 2)

c. Explain how sewage from employees is handled (i.e., septic tank/drainfield,sanitary sewer etc.):

All domestic sewage is directed to an onsite subsurface disposal field. The disposal field construction permit was approved by the local VDH field office on the following dates with corresponding permit ID number is: 93-100-1044 (Approved 6/29/1999), 99-100-0130 (Approved 2/17/1999), 99-100-0923 (Approved 7/9/2001), 99-100-0924 (Approved 7/9/2001), 99-100-0925 (Approved 7/9/2001).

d. *Operational Parameters*

Maximum hours/day of operation:	*18 / hours per day*
Average hours/day of operation:	*12 / per day of operation*
Days/week of operation:	*weather dependant 0 - 7*
Specific months of operation:	*June - November*

3. Non-Hazardous Declaration

a. *Statement for Plant Operations*

Is any part of the manufacturing operations, plant processes or waste treatment facilities at these plant facilities under the purview of the "Virginia Hazardous Waste Management Regulations" or the "Virginia Solid Waste Management Regulations?" _____ *Yes* _X_ *No.*

If Yes, please provide a brief explanation of the type of permit or requirements that apply.

NA

b. *For waste to be land applied, a responsible person, as defined by VR680-14-01, must sign the following statement.*

I certify that the waste described in this application is non-hazardous and not regulated under the Resource Conservation and Recovery Act.

Paula Rice Date 6/3/14

(Signature of Owner)

4. Waste Characterization

a. *Wastewater - Provide at least one analysis for each parameter. Upon review, additional analyses may be required by DEQ. The system has been inactive (zero discharge) since the end of the 2011 operating period. Concentrations provided are from July 2011 or otherwise noted (*) derived from the 2002 permit renewal. Request for waiver from some parameter testing requirements in Appendix E.*

Parameter	Concentration	
Flow to treatment	0.0151	MGD
Flow to storage	0.0151	MGD
Vol. to treatment	0.286465	MG
Vol. to storage	0.286465	MG
Vol. Land applied	0.286465	MG/year
BOD_5	177.83 *	mg/l
COD	317.33 *	mg/l
TOC	245.5 *	mg/l
TSS	154.17 *	mg/l
Percent Solids	0.015 *	%
PH	6.35	S.U.
Alkalinity as $CaCO_3$	Request to be waived	mg/l
Nitrogen, (Nitrate)	1.35	mg/l
Nitrogen, (Ammonium)	0.38	mg/l
Nitrogen, (Total Kjeldahl)	15.05	mg/l
Phosphorus, (Total)	4.10	mg/l
Potassium, (Total)	48.75	mg/l
Sodium	215	mg/l

b. *Sludge - Provide at least one analysis for each parameter. Upon review, additional analyses may be required by DEQ.* ***NA***

Parameter	Concentration*	
Percent Solids		%
Volatile Solids		%
pH		S.U.
Alkalinity as $CaCO_3$**		mg/kg
Nitrogen (Nitrate)		mg/kg
Nitrogen (Ammonium)		mg/kg
Nitrogen (Total Kjeldahl)		mg/kg
Phosphorous (Total)		mg/kg
Potassium (Total)		mg/kg
Lead		mg/kg
Cadmium		mg/kg
Copper		mg/kg
Nickel		mg/kg
Zinc		mg/kg
		mg/kg

* Unless otherwise noted, report results on dry weight basis.

** Lime treated sludges (l0% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

c. *Provide a separate waste characterization listing for each wastewater and sludge generated at the facility. Insert "Yes" beside all parameters believed present and provide at least one analysis for each. Insert "No" beside all parameters believed not present. Indicate "NA" for any parameter already addressed in Item 4a. or 4b.*

Parameter	Believed Present (yes or no)	Concentration
Sodium	N/A	
Bromide	No	
Total Residual Chlorine	No	
Fecal Coliform	No	
Fluoride	No	
Oil & Grease	No	
Total Radioactivity	No	
Total Alpha	No	
Total Beta	No	
Total Radium	No	
Total Radium 226	No	
Sulfate (as SO_4)	No	
Sulfide (as S)	No	
Sulfite (as SO_3)	No	
Surfactants	No	
Total Aluminum	No	
Total Barium	No	
Total Boron	No	
Total Cobalt	No	
Total Iron	No	
Total Magnesium	No	
Total Molybdenum	No	
Total Manganese	No	
Total Tin	No	
Total Titanium	No	
Total Antimony	No	
Total Arsenic	No	
Total Beryllium	No	
Total Cadmium	No	
Total Chromium	No	
Total Copper	No	
Total Lead	No	
Total Mercury	No	
Total Nickel	No	
Total Selenium	No	
Total Silver	No	
Total Thallium	No	
Total Zinc	No	
Total Cyanide	No	
Total Phenols	No	
Dioxin	No	
Acrolein	No	

*If the analysis is for sludge, report results on dry weight basis.

c. (Continued)

Parameter	Believed Present (yes or no)	Concentration
Acrylonitrile	No	
Benzene	No	
Bis(Chloromethyl)Ether	No	
Bromoform	No	
Carbon Tetrachloride	No	
Chlorobenzene	No	
Chlorodibromomethane	No	
Chloroethane	No	
2-Chloroethylvinyl Ether	No	
Chloroform	No	
Dichlorobromomethane	No	
Dichlorodifluoromethane	No	
1,1-Dichloroethane	No	
1,2-Dichloroethane	No	
1,1-Dichloroethylene	No	
1,2-Dichloropropane	No	
1,3-Dichloropropylene	No	
Ethylbenzene	No	
Methyl Bromide	No	
Methyl Chloride	No	
Methylene Chloride	No	
1,1,2,2-Tetrachlorethane	No	
Tetrachloroethylene	No	
Toluene	No	
1,2-TransDichloroethylene1	No	
1,1,-Trichloroethane	No	
1,1,2,-Trichloroethane	No	
Trichloroethylene	No	
Trichlorofluoromethane	No	
Vinyl Chloride	No	
2-Chlorophenol	No	
2,4-Dichlorophenol	No	
2,4-Dimethylpheno	No	
4,6-Dinitro-O-Cresol	No	
2,4-Dinitrophenol	No	
2-Nitrophenol	No	
4-Nitrophenol	No	
P-Chlor-M-Cresol	No	
Pentachlorophenol	No	
Phenol	No	
2,4,6-Trichlorophenol	No	
Acenaphthene	No	
Acenaphtylene	No	
Acenaphtylene	No	
Benzidine	No	
Benzo(a)Athracene	No	
Benzo(a)Pyrene	No	
3,4-Benzofluoranthene	No	
Benzo(ghi) Perylene	No	
Benzo(k)Fluoranthene	No	
Bis(2-Chloroethoxy)Methane	No	
Bis(2-Chloroethyl) Ether	No	
Bis(2-Chloroisopropyl)Ether	No	
Bis(4-Bromophenyl Phenyl Ether	No	
Butyl Benzyl Phthalate	No	
4-Chlorophenyl Phenyl Ether	No	
2-Chloronaphthalene	No	
Chrysene	No	
Dibenzo(a,h) Anthracene	No	

c. (Continued)

Parameter	Believed Present (yes or no)	Concentration
1,2-Dichlorobenzene	No	
1,3-Dichlorobenzene	No	
1,4-Dichlorobenzene	No	
3,3'-Dichlorobenzidine	No	
Diethyl Phthalate	No	
Dimethyl Phthalate	No	
Di-N-Butyl Phthalate	No	
2,4-Dinitrotoluene	No	
2,6-Dinitrotoluene	No	
Di-N-Octyl Phthalate	No	
1,2-Diphenylhydrazine(as	No	
Azobenzene)	No	
Fluoranthene	No	
Fluorene	No	
Hexachlorobenzene	No	
Hexachlorobutadiene	No	
Hexachlorocyclopentadiene	No	
Hexachloroethane	No	
Indeno(1,2,3-cd)Pyrene	No	
Isophorone	No	
Naphthalene	No	
Nitrobenzene	No	
N-Nitrosodimethylamine	No	
N-Nitrosodi-N-Propylamine	No	
N-Nitrosodiphenylamine	No	
Phenanthane	No	
Pyrene	No	
1,2,4 - Trichlorobenzene	No	
Aldrin	Yes	BDL < 0.011 ug/L
á- BHC	Yes	BDL < 0.011 ug/L
â- BHC	Yes	BDL < 0.011ug/L
ã- BHC	Yes	BDL < 0.011 ug/L
ä- BHC	Yes	BDL < 0.011ug/L
Chlordane	Yes	BDL < 0.53 ug/L
4,4'- DDT	Yes	BDL < 0.011 ug/L
4,4'- DDE	Yes	BDL < 0.011 ug/L
4,4'- DDD	Yes	BDL <0.011 ug/L
Dieldrin	Yes	BDL< 0.011ug/L
á-Endosulfan â-	Yes	0.40 ug/L
Endosulfan Sulfate	Yes	1.3 ug/L
Endrin	Yes	BDL < 0.5 ug/L
Endrin Aldehyde	Yes	BDL < 0.0053 ug/L
Heptachlor	Yes	BDL < 0.011 ug/L
Heptachlor Epoxide	Yes	BDL<0.011 ug/L
PCB - 1242	Yes	BDL < 0.53 ug/L
PCB - 1254	No	
PCB – 1221	Yes	BDL < 0.53 ug/L
PCB – 1232	Yes	BDL < 0.53 ug/L
PCB – 1248	No	
PCB – 1260	No	
PCB – 1016	No	
Toxaphene	Yes	BDL < 0.53 ug/L
Chloromethane	No	
Chlorpyrifos	No	
Demeton	No	
Dichloromethane	No	
(2,4-dichlorophenoxy) acetic	No	
acid (2,4-D)	No	
Di-2-Ethylhexyl Phthalate	No	
MBAS	No	

c. (Continued)

Parameter	Believed Present (yes or no)	Concentration
Lindane	No	
Hydrogen Sulfide	No	
Silvex	No	
Tributyltin	No	
Kepone	No	
Malathion	No	
Methoxyclor	No	
Mirex	No	
Monochlorobenzene	No	
Parathion	No	

d. Provide a separate waste characterization listing for each wastewater and sludge generated at the facility. List any additional parameters believed present in the spaces provided below and provide at least one analysis for each.

Parameter	Concentration
TKN	14.7 mg/L
Ammonia	BDL < 0.1 mg/L
Nitrate	BDL < 0.1 mg/L
Calcium	36.9 mg/L
Magnesium	9.88 mg/L
Chloride	156.0 mg/L
Endosulfan II	1.2ug/L

5. Briefly describe the design and provide a line drawing of the waste treatment facility which relates the various components of the treatment system including source(s), treatment unit(s), disposal alternatives, and flow estimates from the various process units.

Wastewater (expended wash flume water) containing sodium hypochlorite is conveyed to a series of three (3) 15,000-gallon storage tanks utilizing a transfer pump ***(2 HP Goulds Model 3888)*** operating at 200 GPM @ 27 feet of TDH from a wet well. Wastewater is mechanically screened of solids via one Everfilt gravity type, 100 mesh screen installed on top of storage tank No. 1. Wastewater is passed over the screen prior to discharge into the storage tanks. Filtered solids fall through a chute below the screen and into a collection bin. Once filled the bin is emptied into a distribution truck for hauling to the cull disposal field. The screened effluent is then pumped from the storage tanks to irrigation sprinklers for land application and treatment by the in-situ soil onsite. An average of approximately 15,400-gallons per day is generated. The 46,000 gallons of storage provides 3 days worth of detention time to allow the wastewater to settle solids and gas off free chlorine prior to field application. Wastewater is sequentially applied to each section of the land application site to ensure uniform coverage.

(See Appendix A: Figure 2, 3 and 4)

6. Indicate the number and type of waste storage facilities. If existing, indicate the volume; DEQ may require additional information upon review.

No.		Existing (Volume)	Proposed
___	Earthen Storage Pond	_____	_____
___	Storage Pit	_____	_____
3	Storage Tank	15,000 gallons	_____
___	Anaerobic Lagoon	_____	_____
2	Other	500 gallons	_____
		_____	_____

7. Have the existing storage/treatment facilities identified in Item 5 and 6 above been previously approved by the Department of Environmental Quality?
Yes__X__ No_____

If yes, provide the date of the approval and proceed to Item 8.
Approval Date: ***June 15, 2004 - VPA # 01057***

If no, provide information required by Items 9, 10, and ll.

8. Have the previously approved facilities been altered or expanded?
Yes_____ No__X__

If yes, it will be necessary to provide the information for such facilities, as required by Items 9 & 10, and 11.

If no, proceed to Item 12.

9. Provide conceptual design for the treatment facilities including design approach used. Explain how ground water will be protected. Demonstration should include soil evaluation, geology, hydrology, and topography. The following information must be provided for each proposed facility identified in Item 6 above and for those existing facilities in Items 7 and 8 which have not been either previously approved or were altered: ***N/A***

   a. *Design calculations for volume (ft^3) and estimated days of storage*

   b. *Description of lining material and permeability*

   c. *Plan and cross-sectional views*

   d. *Depth to seasonal high water table and separation to permanent water table.*

10. Will the proposed waste storage/treatment facilities be located within the 100-year flood plain? _____Yes _____No. ***N/A***

    If yes, what is the elevation of the l00-year flood plain and elevation of the proposed facilities. Also, how will the waste storage facilities be protected from flooding? (Flood elevation can be obtained from your local county zoning/planning department).

    N/A

11. Will the proposed or existing storage/treatment facilities receive any storm water runoff? _____Yes __X__No.

    If yes, provide total area (square feet, acres, etc.) from which runoff will occur and indicate this area on the line drawing (Item 5). ***N/A***

    Total area: _____
    Dimensions: _____

12. Will any part of the waste generated at your facility be land applied? Yes __X__ No _____. If yes, Part C-II must be completed.

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION

FORM C

INDUSTRIAL WASTE

PART C-II Land Application and Waste Handling Procedure

Facility Name: Del Monte Fresh Production, Inc. Processing Plant

Items 1-12 pertain to the land application of industrial sludge/wastewater at frequent and infrequent rates. The applicant may request a waiver in writing for any of the required information if it is not pertinent to their operation.

1. For each land application site provide a topographic map of sufficient scale (5 foot contour preferred) clearly showing the location of the following features within 0.25 mile of the site. Provide a legend with approximate scale. (See General Instructions for map requirements.)

(See Appendix A – Figures 1 + 3)

a. *Proposed or existing ground water monitoring wells*
b. *General direction of ground water movement*
c. *Water wells, abandoned or operating*
d. *Surface water*
e. *Springs (N/A)*
f. *Public water supply(s)(Two found)*
g. *Sink holes (N/A)*
h. *Underground and/or surface mines (N/A)*
i. *Mine pool (or others) surface water dischargepoints (N/A)*
j. *Mining spoil piles and mine dumps (N/A)*
k. *Quarry(s) (N/A)*
l. *Sand and gravel pits (N/A)*
m. *m. Gas and oil wells (N/A)*
n. *Diversion ditch(s) (N/A)*
o. *Agricultural drainage ditch(s)*
p. *Occupied dwellings, including industrial and commercial establishments*
q. *Landfills or dumps (N/A)*
r. *Other unlined impoundments (N/A)*
s. *Septic tanks and drainfields*
t. *Injection wells*
u. *Rock outcrops (N/A)*
v. *Soil boring or test pits locations (N/A)*
w. *Subsurface drainage tile (N/A)*

2. For each land application site provide a site plan of sufficient detail to clearly show any landscape features, which will require buffer zones or may limit land application. Provide a legend and clearly mark the field boundaries and property lines. The following landscape features should be delineated. (See General Instructions for map requirements.) (See Appendix A – Figure 3)

   a. *Drainageways*
   b. *Rock outcrops*
   c. *Sink holes*
   d. *Drinking water wells and springs*
   e. *Monitoring wells*
   f. *Property lines*
   g. *Roadways*
   h. *Occupied dwellings*
   i. *Slopes (greater than 8% by slope class)*
   j. *Wet spots*
   k. *Severe erosion (SCS designation)*
   l. *Frequently flooded soils (SCS designation)*
   m. *Surface waters*

3. Provide a complete description of agronomic practices for each crop to be grown, on field-by-field basis including a nutrient management program, soil and/or plant tissue testing, and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

   (See Appendix C)

4. Describe all land application methods and any equipment used in the process.

   (See Appendix A - Figure 4 and Appendix C)

5. Provide a detailed soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)

   (See Appendix C)

   Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions should include the following information.

   a. *Soil symbol*
   b. *Soil series, textural phase and slope class*
   c. *Depth to seasonal high water table*
   d. *Depth to bedrock*
   e. *Estimated productivity group (for the proposed crop rotation).*
   f. *Estimated infiltration rate (surface soil)*
   g. *Estimated permeability of most restrictive subsoil layer*

   (See Appendix F)

6. Representative soil borings for frequent land application and fixed spray irrigations, (to no less than 5 ft. or to the water table) are to be conducted for the typifying pedon of each soil series (soil type) and the following data collected and tests performed. All results for infiltration and permeability tests should be enclosed. Provide information on the items below:

Land application is seasonal so this requirement is not required for this site.

a. Soil symbol
b. Soil series, textural phase and slope class
c. Depth to seasonal high water table
d. Depth to bedrock (N/A)
e. Estimated productivity group (for the proposed crop rotation).
f. Estimated infiltration rate (surface soil)
g. Estimated permeability of most restrictive subsoil layer

7. Representative soil samples are to be collected for each major soil type and analyzed for the soil parameters indicated on Page C-II.6. Samples are to be taken at a depth of 0-6 in.

(See Appendix B)

8. Land Area Determination:

a. Land area requirements are to be calculated and justified for each of the parameters listed below:

Parameters	*Method of Determining Required Area*
1. Nitrogen	*Crop uptake, immobilization denitrification, leaching*
2. Phosphorus	*Crop uptake, soil adsorption*
3. Potassium	*Crop uptake*
4. Sulfur	*Crop uptake, soil adsorption leaching*
5. Salts	*Sodium Adsorption Ratio (SAR), leaching*
6. Carbon/Nitrogen Ratio	
7. Metals(Ni, Cu, Zn, Pb, Co, Cd or other)	*Cumulative loading for site life*
8. Anions (As, B, Chlorides)	*Leaching, Soil Adsorption*
9. Calcium Carbonate Equivalency	*Soil pH management*
10. Other Parameters (As needed or as requested by DEQ)	

For each parameter and method of assimilation, (i.e. crop uptake, denitrification, immobilization, soil adsorption leaching, etc.), the required land area is to be justified by attaching calculations and appropriate references. Allowances for soil adsorption are to be justified by pertinent soil testing.

Provide calculations describing the nutrient value of the waste as lbs per dry ton or mg/l nitrogen (PAN), phosphorus (P_2O_5), potassium (K_2O), and any liming effects which may occur from land application.

b. *Land area requirements for application of industrial wastewater or liquid sludge are to be determined and an annual water balance on a monthly basis developed integrating the following factors:*

1. *Monthly precipitation*
2. *Monthly evapotranspiration data*
3. *Soil percolation rates (from subsurface permeability data)*
4. *Monthly wastewater loading*
5. *Monthly storage requirement*
6. *Monthly storage input/drawdown*

(See Appendix D)

9. Does the volume of wastewater generated as determined by the water balance in 8.b. exceed the hydraulic loading rate (inches/acre/year) of the soils? _____Yes __X__No

If Yes, explain how excess loading will be disposed of:

_____
_____
_____
_____
_____
_____
_____
_____

10. Is the land application site owned by the applicant? __X__Yes_____No.

If No, answer question 11 and have the land owner complete the authorization form, Page C-II-5.

11. Complete page C-II.5 by providing the name(s), address(es), site locations and signatures of non-applicant land owner on whose property industrial waste will be applied (A separate approval will be required for each additional owner.):

N/A

AUTHORIZATION TO LAND APPLY WASTE

(Land Owner must sign and date this approval)

N/A

As land owner, I authorize _____to land apply wastewater/sludge to my property in accordance with their VPA Form C application. This authorization will remain in effect until such time as I notify the Department of Environmental Quality in writing that this authorization has been withdrawn.

Name: _____

Address: _____

_____

Telephone: _____

Site Location(s) _____

Date: _____

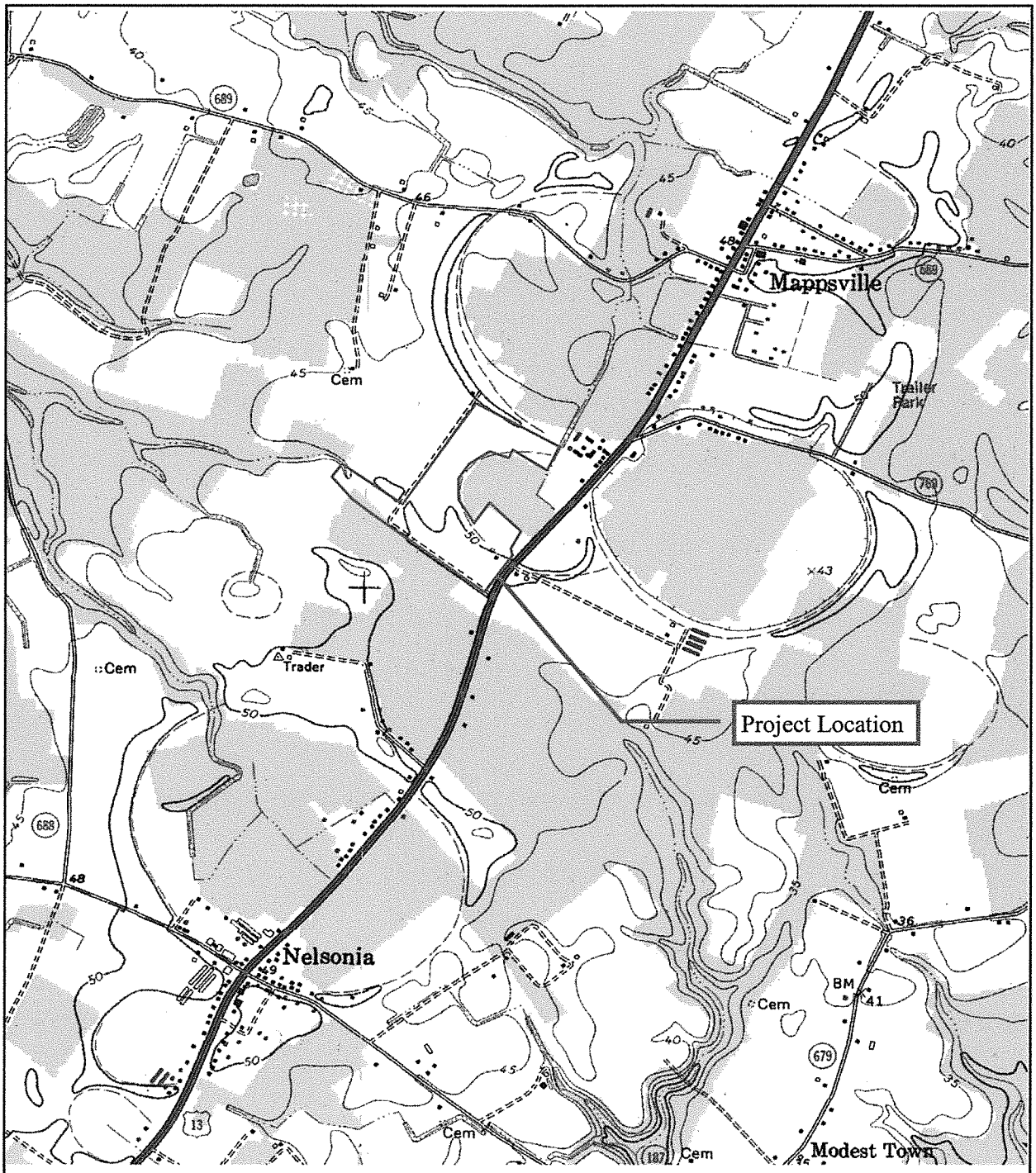
Signature: _____

SOIL TEST PARAMETERS FOR LAND APPLICATION SITES[1]

Parameter	Sludge – Frequent below Agronomic Rates[2]	Sludge - Frequent at Agronomic Rates[3]	Sludge - Infrequent	Wastewater
Soil Organic Matter (%)		*		*
Soil pH (Std. Units)	*	*	*	*
Cation Exchange Capacity (me/100g)	*	*	*	*
Total Nitrogen (ppm)		*		*
Organic Nitrogen (ppm)		*		*
Ammonia Nitrogen (ppm)		*		*
Nitrate Nitrogen (ppm)		*		*
Available Phosphorus (ppm)	*	*	*	*
Exchangeable Potassium (mg/100g)	*	*	*	
Exchangeable Sodium (mg/100g)		*		*
Exchangeable Calcium (mg/100g)		*		*
Exchangeable Magnesium (mg/100g)		*		*
Copper (ppm)		*		*
Nickel (ppm)		*		*
Zinc (ppm)		*		*
Cadmium (ppm)		*		*
Lead (ppm)		*		*
Chromium (ppm)		*		*
Manganese (ppm)		*		*
Particle Size Analysis or USDA Textural Estimate (%)		*		*
Hydraulic Conductivity (in/hr)				*

(1) Unless otherwise stated, analyses shall be reported on a dry weight basis.
(2) Less than 70% of agronomic nitrogen rates (annual basis).
(3) Test requirements will be adjusted based on previous test results.
* Test for these parameters.

APPENDIX A
Figures



Source: Bloxom and Hallwood, Virginia USGS Quadrangle Topographic Maps

N

FIGURE 1. SITE VICINITY MAP

DEL MONTE PRODUCTION, INC. PROCESSING PLANT
MAPPSVILLE, VIRGINIA

MSA JOB #	DATE:	SCALE	By:
14068J	4/19/2014	NTS	JEF

MSA. P.C.
5033 Rouse Drive, Virginia Beach, VA. 23462
(757) 490-9264 (ofc) (757) 490-0634 (fax)
www.msaonline.com
Environmental Sciences + Planning + Surveying
Engineering + Landscape Architecture

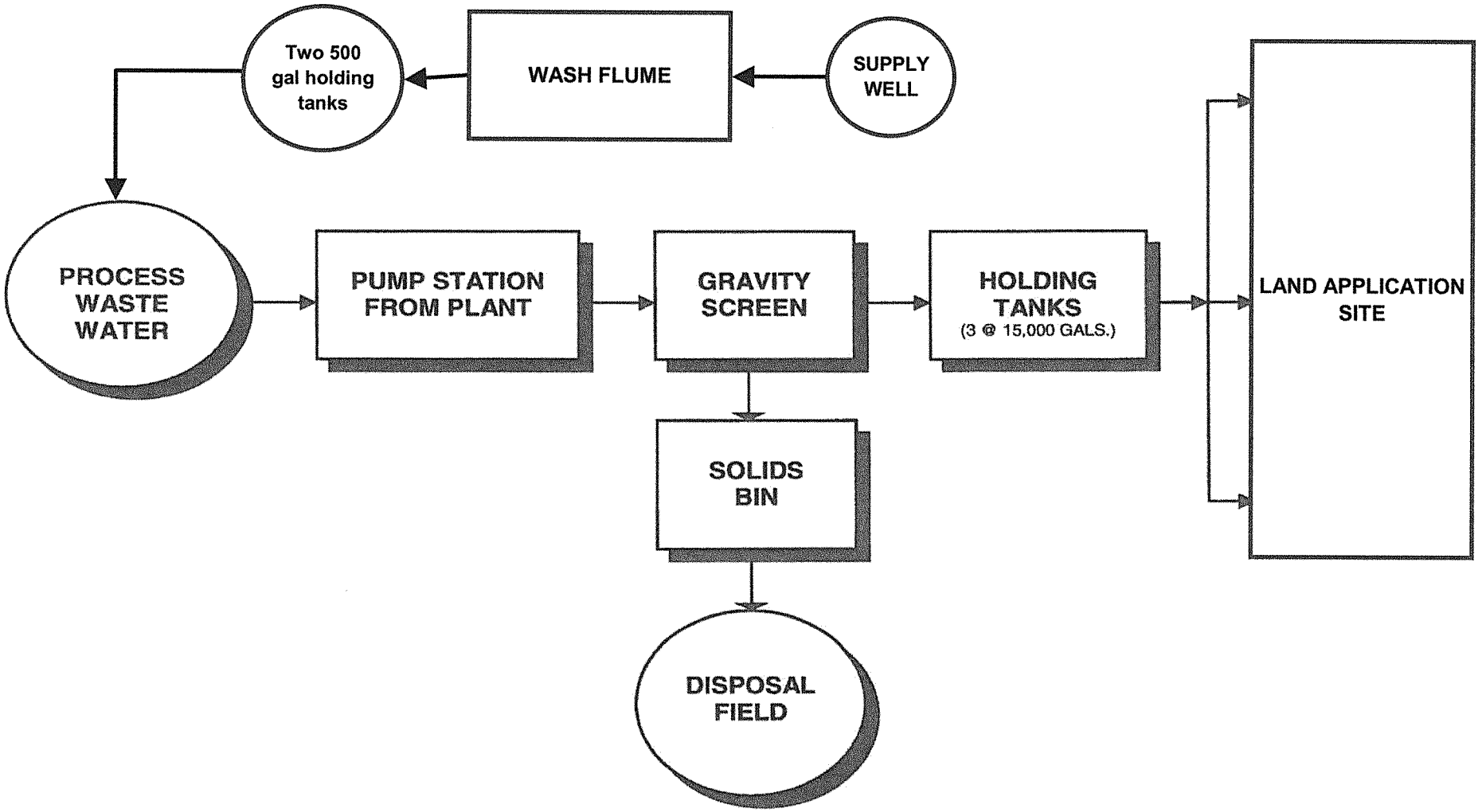


FIGURE 2. Wastewater Disposal Schematic

VPA PERMIT APPLICATION
DEL MONTE PRODUCTION, INC. PROCESSING PLANT
MAPPSVILLE, VIRGINIA

MSA. P.C.
5033 Rouse Drive, Virginia Beach, VA. 23462
(757) 490-9264 (of) (757) 490-0634 (fax)
www.msaonline.com
Environmental Sciences + Planning + Surveying
Civil and Environmental Engineering + Landscape Architecture

MSA JOB #	DATE:	SCALE
14068J	4/19/2014	NTS

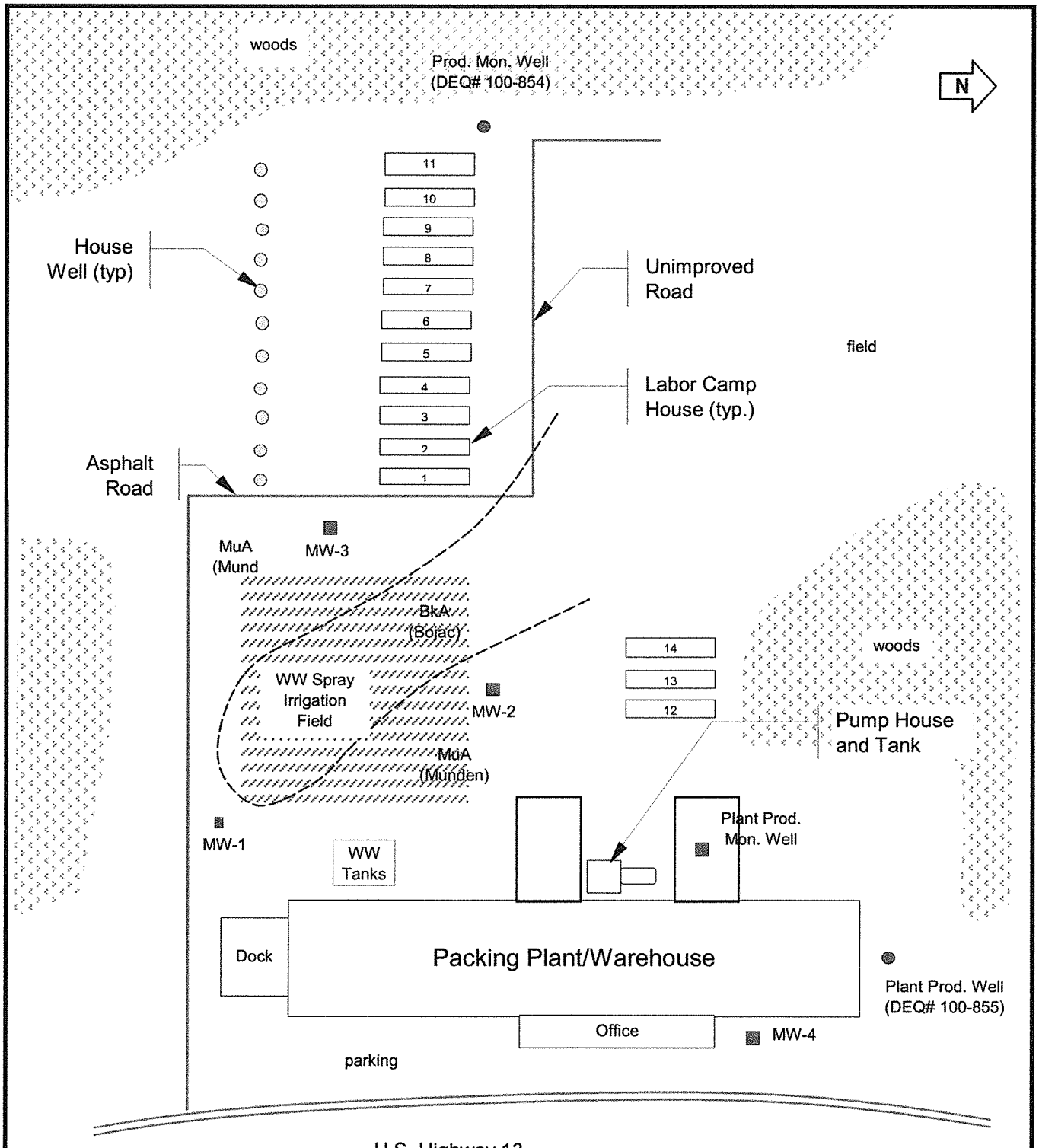


FIGURE 3 Site Features

MSA JOB#	DATE:	SCALE
14068J	4/19/14	NTS

VPA PERMIT APPLICATION
DEL MONTE PRODUCTION, INC. PROCESSING PLANT
MAPPSVILLE, VIRGINIA

MSA, P.C.
5033 Rouse Drive, Virginia Beach, VA. 23462
(757) 490-9264 (ofc) (757) 490-0634 (fax)
www.msaonline.com
Environmental Sciences + Planning + Surveying
Engineering + Landscape Architecture

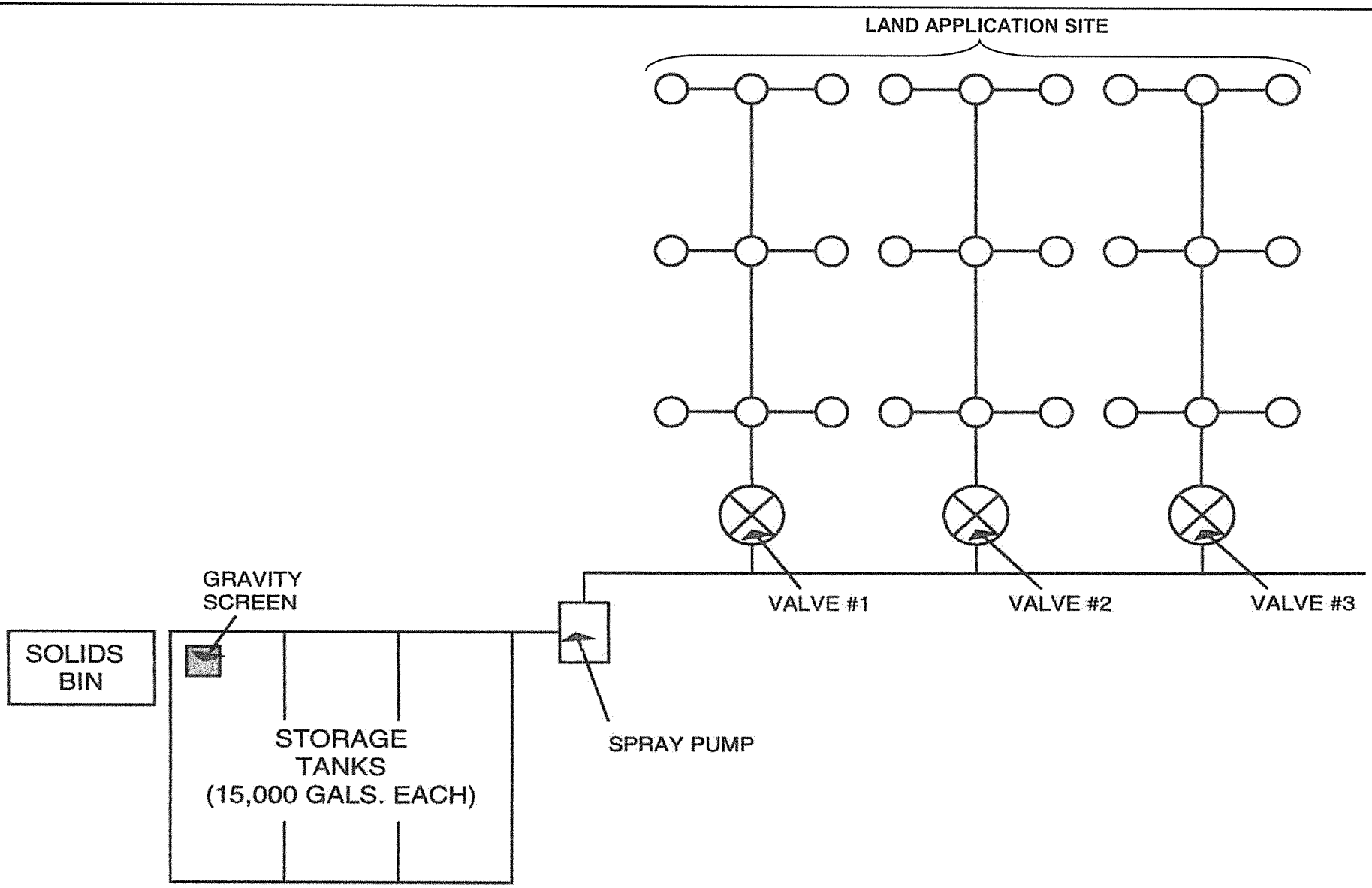
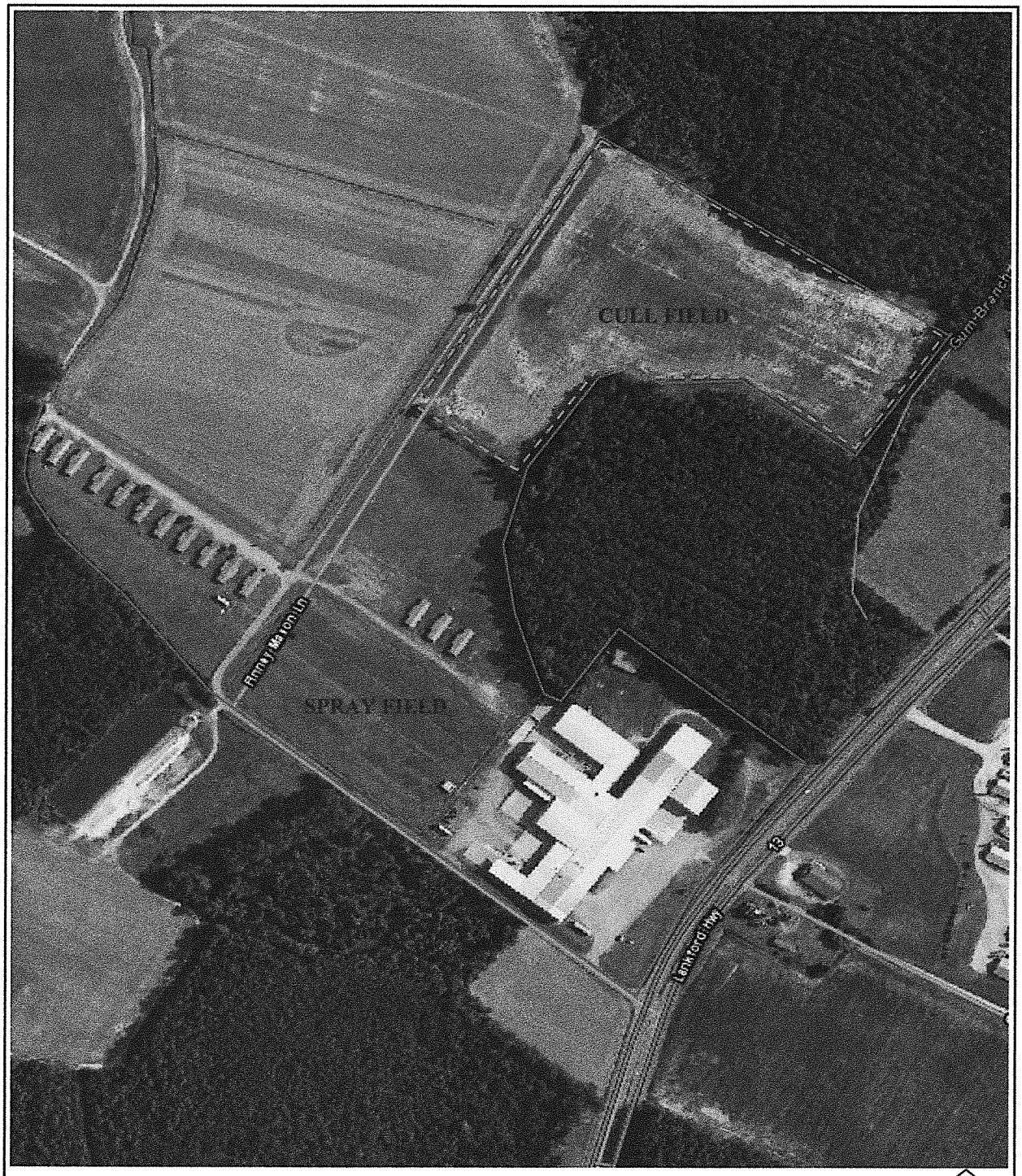


FIGURE 4. LAND APPLICATION METHODS

VPA PERMIT APPLICATION
DEL MONTE PRODUCTION, INC. PROCESSING PLANT
MAPPSVILLE, VIRGINIA

MSA. P.C.
5033 Rouse Drive, Virginia Beach, VA. 23462
(757) 490-9264 (of) (757) 490-0634 (fax)
www.msaonline.com
Environmental Sciences + Planning + Surveying
Civil and Environmental Engineering + Landscape Architecture

MSA JOB #	DATE:	SCALE
14068J	4/19/2014	NTS



Source: Web Soil Survey

N

FIGURE 5. SITE OVERVIEW MAP

DEL MONTE PRODUCTION, INC. PROCESSING PLANT
MAPPSVILLE, VIRGINIA

MSA JOB #	DATE:	SCALE	By:
14068J	4/19/2014	NTS	JEF

MSA, P.C.
5033 Rouse Drive, Virginia Beach, VA. 23462
(757) 490-9264 (ofc) (757) 490-0634 (fax)
www.msaonline.com
Environmental Sciences + Planning + Surveying
Engineering + Landscape Architecture

APPENDIX B
Lab Results

Land Application Site – Spray Field

Soil Analytical Results

(4-08-2008)

System has been idle since 2011. Soil samples collected and reported from 2008 permit compliance requirements are utilized for application reference. Testing of complete Page C-II.6 parameters are being analyzed at this time. Soil analyses are expressed as dry weights in mg/kg.

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 • 244 • 3424
Fax 757 • 244 • 3243

Analytical Summary

MSA, P.C.
Attn: Matt Reed
5033 Rouse Drive
Virginia Beach, VA 23462

Project No. : 99167
Project Name : ECBP VPA
Date Received: April 10, 2008
Date Sampled : April 08, 2008
Time Sampled : 12:00
Date Issued : May 07, 2008

Lab # 1(A)/Sample ID : ECBP BS BOONE

Parameter	Result	Units	DL	Date/Time Analyzed	Method	Analyst
pH	6.9	SU	--	04-24/1040	SW9045D	ETC
Cation Exchange Capacity	12	meq/100g	--	05-01/1900	SW9081	ETC
Exchangeable Potassium	122	mg/kg	--	04-28/1700	Extractable Cation	ETC
Exchangeable Sodium	3.1	%	0.5	04-24/0938	LA29BESP	ETC
Available Phosphorus	198	mg/kg	50	04-24/1120	BRAY-1P	ETC
TKN	875	mg/kg	0.5	04-24/0819	4500-NH3D	ETC
Nitrate (as N)	1.98	mg/kg	0.982	04-29/0829	300.0	ETC
Nitrate+Nitrite-N	1.98	mg/kg	0.982	04-29/0829	SW9056	ETC
Total Nitrogen	877	mg/kg	0.5	05-06/1324	calc.	ETC
Soluble Salts	0.13	mmhos/cm	0.01	04-24/1231	Soluble Salts 1:2	ETC

Lab # 2(A)/Sample ID : ECBP UU MUNDEN

Parameter	Result	Units	DL	Date/Time Analyzed	Method	Analyst
pH	6.7	SU	--	04-24/1040	SW9045D	ETC
Cation Exchange Capacity	13	meq/100g	--	05-01/1900	SW9081	ETC
Exchangeable Potassium	132	mg/kg	--	04-28/1700	Extractable Cation	ETC
Exchangeable Sodium	3.6	%	0.5	04-24/0938	LA29BESP	ETC
Available Phosphorus	175	mg/kg	50	04-24/1120	BRAY-1P	ETC
TKN	759	mg/kg	0.5	04-24/0819	4500-NH3D	ETC
Nitrate (as N)	4.39	mg/kg	0.896	04-29/0829	300.0	ETC
Nitrate+Nitrite-N	4.39	mg/kg	0.896	04-29/0829	SW9056	ETC
Total Nitrogen	763	mg/kg	0.5	05-06/1324	calc.	ETC
Soluble Salts	0.15	mmhos/cm	0.01	04-24/1231	Soluble Salts 1:2	ETC

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager
H8421489-1

Wastewater Analytical Results
(7-14-2011)

System has been idle since 2011 and not currently producing wastewater. Water sample results from 7/2011 permit compliance requirements are utilized for application reference. Water analyses are expressed as mg/L.

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: ~~VPA 1057~~ 08630C
Pace Project No.: 9298369

Sample: VPA 1057-1 **Lab ID: 9298369001** Collected: 07/14/11 12:35 Received: 07/15/11 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
608SF GCS Pesticides and PCBs	Analytical Method: EPA 608							
Aldrin	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	309-00-2	
alpha-BHC	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	319-84-6	
beta-BHC	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	319-85-7	
delta-BHC	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	58-89-9	
Chlordane (Technical)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	57-74-9	
4,4'-DDD	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	72-54-8	
4,4'-DDE	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	72-55-9	
4,4'-DDT	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	50-29-3	
Dieldrin	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	60-57-1	
Endosulfan I	**0.40**	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	959-98-8	
Endosulfan II	**1.2**	ug/L	0.11	10	07/19/11 16:40	07/20/11 18:35	33213-65-9	
Endosulfan sulfate	**1.3**	ug/L	0.11	10	07/19/11 16:40	07/20/11 18:35	1031-07-8	
Endrin	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	72-20-8	
Endrin aldehyde	ND	ug/L	0.0053	1	07/19/11 16:40	07/19/11 20:45	7421-93-4	
Heptachlor	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	76-44-8	
Heptachlor epoxide	ND	ug/L	0.011	1	07/19/11 16:40	07/19/11 20:45	1024-57-3	
PCB-1016 (Aroclor 1016)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	11096-82-5	
Toxaphene	ND	ug/L	0.53	1	07/19/11 16:40	07/19/11 20:45	8001-35-2	
Tetrachloro-m-xylene (S)	158	%	53-110	1	07/19/11 16:40	07/19/11 20:45	877-09-8	S2
Decachlorobiphenyl (S)	55	%	61-121	1	07/19/11 16:40	07/19/11 20:45	2051-24-3	S1
200.7 MET ICP, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Copper, Dissolved	**250**	ug/L	5.0	1	07/19/11 15:05	07/20/11 11:49	7440-50-8	
Zinc, Dissolved	**302**	ug/L	10.0	1	07/19/11 15:05	07/20/11 02:19	7440-66-6	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Calcium	**44800**	ug/L	100	1	07/20/11 10:20	07/21/11 13:56	7440-70-2	
Magnesium	**11600**	ug/L	100	1	07/20/11 10:20	07/21/11 13:56	7439-95-4	
Potassium	**62900**	ug/L	50000	10	07/20/11 10:20	07/21/11 14:14	7440-09-7	
Sodium	**292000**	ug/L	50000	10	07/20/11 10:20	07/21/11 14:14	7440-23-5	
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**7.5**	mg/L	0.10	1		07/21/11 14:04	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**28.1**	mg/L	2.5	5		07/17/11 12:36	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.20	1		07/15/11 22:03		

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: ~~VPA 1057~~ 050302
Pace Project No.: 9298369

Sample: VPA 1057-1 **Lab ID: 9298369001** Collected: 07/14/11 12:35 Received: 07/15/11 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrite	**0.64**	mg/L	0.10	1		07/15/11 22:03		
Nitrogen, NO2 plus NO3	ND	mg/L	0.20	1		07/15/11 22:03		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**6.7**	mg/L	0.20	4		07/22/11 15:36	7723-14-0	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**410**	mg/L	75.0	15		07/19/11 10:51	16887-00-6	

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1477732

Section A
Required Client Information:

Company:	MSA
Address:	5033 Rouse Dr, VB, VA 23462
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	Tony Bucorro
Copy To:	
Purchase Order No.:	East Coast
Project Name:	VPA 1057
Project Number:	080302

Section C
Invoice Information:

Attention:	
Company Name:	Same
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	3639-6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: ______

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N: ND)	DIS Cu+Zn	Ca, Mg, K, Na	TKN	Chlor/Spec Cond	Nitrate	NH3 Phosphorus	Pesticides	Residual Chlorine (Y/N)	Pace Project No./Lab I.D. 9298369
1	VPA 1057-1	WW	G			7/14/11	1235		1	X									X								001
2	-2						1240		1		[illegible]	X								X							
3	-3						1245		1		X										X						
4	-4						1250		1	X												X					
5	-5						1255		1	X													X				
6	-6						1300		1		X													X			
7	-7						1305		2	X															X		
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	7/14/11	1600	[signature] / Mae	7/15/11	1247				
	[signature] / Mae	7/15/11	1340	[signature] / PASI	7/15/11	1340	3.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Tony Bucorro

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 7/14/11

*Important N[illegible] signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for a[illegible]es not paid within 30 days.

F-ALL-Q-020rev.07, 15[illegible] 2007

ATTACHMENT C-1a
DEPARTMENT OF ENVIRONMENTAL QUALITY
Virginia Pollution Abatement Monitoring Report

Facility Name: East Coast Brokers and Packers, Incorporated
Address: 15141 Finney Mason Road
Mappsville, VA 23407

VPA Permit No.: VPA01057

Report Period: From 7 / 1 / 2011 To 7 / 31 / 2011

Monitoring Station: **Spray Irrigation Wastewater From Storage Tank**

Parameters	Units		Monitoring Results		Analysis Frequency	Sample Type
			Average	Maximum		
Flow	MGD	Reported	0.0151	0.0340	*1/Day*	*Measured*
		Required	NL	NL	1/Day	Measured
Total Vol. Applied	MG	Reported		0.286465	*Monthly*	*Calculated*
		Required	*****	NL	Monthly	Calculated
Application Rate	in/day	Reported		0.168	*1/App. Day*	*Measured*
		Required	*****	1.0	1/App. Day	Measured
Application Rate	in/wk.	Reported		1.176	*1/Week*	*Measured*
		Required	*****	2.0	1/Week	Measured
PH	S.U.	Reported	6.35	6.50	*2/Month*	*Grab*
		Required	6.0 min	9.0	2/Month	Grab
Chlorides	mg/l	Reported	355.00	410.00	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
TKN	mg/l	Reported	15.05	28.10	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
TKN	#/acre	Reported	5.55	11.11	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Nitrate-Nitrogen	mg/l	Reported	1.35	2.50	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Nitrate-Nitrogen	#/acre	Reported	0.47	0.93	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Ammonia-Nitrogen	mg/l	Reported	3.80	7.50	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Ammonia-Nitrogen	#/acre	Reported	1.41	2.82	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Available Phosphorus	mg/l	Reported	4.10	6.70	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab

TONY DONCARRA COMPLIANCE MANAGER
Name of Principal Exec. Officer or Authorized Agent / Title

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. ?1001 and 33 U.S.C. ?1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

Signature of Principal Officer or Authorized Agent / 8/9/11 Date

ATTACHMENT C-1a
DEPARTMENT OF ENVIRONMENTAL QUALITY
Virginia Pollution Abatement Monitoring Report

Facility Name: East Coast Brokers and Packers, Incorporated
Address: 15141 Finney Mason Road
Mappsville, VA 23407

VPA Permit No.: VPA01057

Report Period: From 7 / 1 /2011 To 7 / 31 /2011

Monitoring Station: **Spray Irrigation Wastewater From Storage Tank**

Parameters	Units		Monitoring Results		Frequency of Analysis	Sample Type
			Average	Maximum		
Available Phosphorus	#/acre	Reported	1.50	3.00	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Available Potassium	mg/l	Reported	48.75	62.90	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Available Potassium	#/acre	Reported	17.59	35.19	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Calcium	mg/l	Reported	34.25	44.80	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Magnesium	mg/l	Reported	9.10	11.60	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Electro-Conduct (EC)	dS/m	Reported	1150.00	1210.00	*2/Month*	*Grab*
		Required	NL	NL*	2/Month	Grab
Dissolved Copper	ug/l	Reported	875.00	1500.00	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
Dissolved Zinc	ug/l	Reported	385.50	469.00	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
PAN	#/acre	Reported		4.73	*1/Month*	*Calculated*
		Required	NA	Attch C*	1/Month	Calculated
PAN	#/acre /year	Reported		26.00	*1/Year*	*Calculated*
		Required	NA	Attch C*	1/Year	Calculated
Sodium	mg/l	Reported	215.00	292.00	*2/Month*	*Grab*
		Required	NL	NL	2/Month	Grab
SAR	meq/l	Reported	8.25	10.04	*2/Month*	*Calculated*
		Required	NL	NL	2/Month	Calculated
Pesticide Scan (608) Freeboard	ug/l	Reported	*Attach pages*	*Attach pages*	*1/year*	*Grab*
		Required	NA	NL	1/year	Grab

TONY DOUGHERTY COMPLIANCE MANAGER
Name of Principal Exec. Officer or Authorized Agent / Title

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. ?1001 and 33 U.S.C. ?1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

Signature of Principal Officer or Authorized Agent / 8/9/11 Date

Land Application Site – Cull Field

Soil Analytical Results

(June 2014 – to be provided)

APPENDIX C
Agronomic Practices

The general agronomic practices previously approved by permit (2004) for the facility wastewater spray disposal field follows.

A formal Nutrient Management Plan for the wastewater spray disposal field is being prepared by a certified nutrient management planner and will be forwarded for inclusion within the application package.

TURF MAINTENANCE

Tall fescue grass is maintained on the spray field. The grass cover provides uptake of potential nutrients in the spray water, increases evapotranspiration, and thus disposal of the water. The grass also provides erosion and sediment control to keep soils onsite. The grass and grass root matt also increase the detention time of the spray water in the topsoil where natural processes can attenuate nutrients. No specific yield is anticipated from the cover crop; as such, tissue testing is not required.

Table 1 provides a summary of field maintenance.

Activity	Spring (April)	Summer	Fall (September)	Winter
Soils Sampling	X		X	
Aeration	X			
pH Amendment	X		X	
Pesticide (Weed) Application	X			
Cutting	X	X	X	
Irrigation		X	X	
Fertilizing			X	
Thatching			X	
Reseeding			X	

Soils are tested bi-annually (in April and September). During the April sampling event the turf is evaluated with respect to weed coverage. When coverage exceeds 25%, weed control is prescribed in keeping with best management practices. Specific product will be determined based on plant materials found to be present. Application will be in keeping with product labeling and best management practices.

Application of wastewater and amendment may require the use of heavy equipment on the field. If compaction is observed, aeration is best conducted in the spring.

The soil pH at land application site shall be adjusted upward with lime, and if necessary downward with elemental sulfur, to achieve and maintain a pH range approximating 5.8 – 6.5 S.U.

Soil amendment with gypsum (calcium sulfate) at the rate of 10 to 15 lbs. per 100 sq. ft. shall be made on the spray application site in the spring if the Exchangeable Sodium Percentage (ESP) in the soil is equal to or greater than 15.

During the September sampling event the turf is evaluated with respect to health, density and thatch.

- If turf health is found to be substandard, amendments may be prescribed according to recommendations provided by A&L Eastern Laboratories, Inc. located in Richmond, Virginia. Amendments shall be applied according to recommendations

and best management practices. To prevent brown patch, nitrogen fertilizers shall be kept to a minimum.

- If turf is found to lack sufficient density, the field is reseeded as per recommendations for reseeding of established turfs.
- Generally it is not necessary to thatch fescue turf however if the thatch matt is found to be inhibiting water penetration thatching will be prescribed followed by reseeding at the specified rate for established turfs.

During the active growing season the turf is cut on a weekly basis to maintain a turf height of 2.5 - 4". Spray application is monitored to ensure adequate coverage. Consistent coverage and the prevention of wet spots along with management of nitrogen is the primary control for brown patch.

SPRAY FIELD LAND APPLICATION METHODS AND EQUIPMENT

The method for land application of waste wash water used at this facility will be a piped spray irrigation system and supplemented by a truck mounted spreader rack if necessary. Upon the completion of each packing work day, 2,500 gallons per day can be sprayed to the field (Figure 5) through a piped spray irrigated system. The field contains a 50ft buffer around it. If needed, wastewater is transferred from the storage tanks to a 3,000 gallon capacity spray truck using the same 48gpm transfer pump.

Each spray event will be applied to one of the spray field discharge lines. Each subsequent spray event will utilize the next sequential spray field discharge line such that the entire field will be covered over the span of 3 spray events. Application rates and active lines are adjusted by controller valves.

Over application is prevented by the operator visually inspecting and walking on the spray field to verify that the field appears dry enough to receive the wastewater. If the field appears to be wet, no spraying will be performed.

The irrigation system is reliable and has not had any major issues during operation in the past. The irrigation system will require onsite storage of additional piping, valves, controllers, and equipment for repair. In the event that a repair needs to be done to the spray irrigation system, the spray truck may be utilized to land apply wastewater along the same discharge lines. Application rates will be adjusted by speed of the spray trucks. Truck mounted spreader rack systems are very reliable for spray irrigation systems in that they are simple and have few parts. In the event that a spray truck becomes in need of repair, or during wet periods when spraying cannot occur, the 46,000 gallon storage capacity is used to hold excess wastewater until it can be applied. If the transfer pump goes down, one-half of the volume of the vertical storage tanks can still gravity drain into the trucks providing at least 23,000-gallons of holding capacity. For longer duration mechanical problems with the spray truck, a backup spray truck from another spray irrigation operation will be used. Since the spray field has excess capacity, the application rate can be increased so that the truck will have sufficient time between spray events.

Soil Map—Accomack County, Virginia

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Accomack County, Virginia
Survey Area Data: Version 11, Dec 11, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 17, 2010—Jul 4, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Accomack County, Virginia (VA001)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BhB	Bojac loamy sand, 2 to 6 percent slopes	0.0	0.0%
BkA	Bojac sandy loam, 0 to 2 percent slopes	1.6	38.5%
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	0.1	2.8%
MuA	Munden sandy loam, 0 to 2 percent slopes	2.4	58.7%
Totals for Area of Interest		**4.1**	**100.0%**

The general agronomic practices previously approved by permit (2004) for the facility cull disposal field follows.

A formal Nutrient Management Plan for the wastewater spray disposal field is being prepared by a certified nutrient management planner and will be forwarded for inclusion within the application package.

CULL DISPOSAL

Culls are defined as product that is not fit for wholesale distribution. Product is determined to be a cull when its size falls outside of certain criteria (either to large or too small, is physically defective (malformed or ruptured) or is over ripe for packaging.

Culls are separated from marketable product after the wash process which effectively removes or reduces trace pesticides. Culls are conveyed by a spreader truck to a section of the "cull field" identified on Figure 5. Total acreage is 17.1 acres inclusive of 50 foot buffer strips that are maintained around the perimeter of each field. Sections of the field use are rotated as they become full.

A mechanical spreader ruptures the fruit to facilitate dehydration and decomposition once applied. Typically the partially dehydrated and decomposed fruits are further worked into the receiving soils via mechanical disc in the soils within 48 hours of applications.

Cull application is generally conducted from July – October. Off season, the fields are planted with either rye or oat grasses to provide both stabilization and nutrient uptake.
In 2011 a total of 2,048 tons of culls were incorporated into the cull fields this was a low average application year.

Soil Map—Accomack County, Virginia

Map Scale: 1:2,570 if printed on A landscape (11" x 8.5") sheet.

N

0 35 70 140 210 Meters

0 100 200 400 600 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Accomack County, Virginia
Survey Area Data: Version 11, Dec 11, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 17, 2010—Jul 4, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Accomack County, Virginia (VA001)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BhB	Bojac loamy sand, 2 to 6 percent slopes	4.9	28.6%
BkA	Bojac sandy loam, 0 to 2 percent slopes	0.1	0.7%
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	5.4	31.9%
NmA	Nimmo sandy loam, 0 to 2 percent slopes	6.6	38.9%
Totals for Area of Interest		**17.1**	**100.0%**

Soil Logs

BORING NO: MuA

PROJECT NAME: East Coast Brokers and Packers
PROJECT NO: 99167A
LOCATION: Mappsville, Virginia
DATE: 1/20/2004

Depth to Perched Water: n/e
Depth to Seasonal High Water Table: ~5
Depth to Current Water Table: n/e
Depth to Seasonal Low Water Table: n/e

Elev (ft)	Depth (ft)	Soil Description	K (in/hr)	Moisture	Matrix Color	Mottles
50	0.00	Semi-conmsolodated loam with grass	I=2.6 in/hr	moist	yellow brown	
		and grass roots				
49	1.00	Fine clayey sand and silty sand (SC-SM)	K=1.25 in/hr	Very moist	yellow brown	faint blackish
		with abuntant clay films, blocky structure				
		loamy				
47	3.00	Fine silty sand (SM) with trace clay (>5%)		moist	lt yellow brown	faint, uniform red
46.5	3.50	non-compacted coarse silty sand (SM)	K=2.0 in/hr	moist	lt tan to lt br	n/a
45.5	4.50	Medium grained coarse silty sand and	≥ 2 in/hr	semi-moist	lt br to golden	n/a
		poorly graded sand (SP-SM)				

Soil Logs

BORING NO: **BhB**

PROJECT NAME: East Coast Brokers and Packers
PROJECT NO: 99167A
LOCATION: Mappsville, Virginia
DATE: 1/20/2004

Depth to Perched Water: n/e
Depth to Seasonal High Water Table: ~6
Depth to Current Water Table: n/e
Depth to Seasonal Low Water Table: n/e

Elev (ft)	Depth (ft)	Soil Description	K (in/hr)	Moisture	Matrix Color	Mottles
51	0.00	Frozen silty sand (SM) with roots	K=8.8 in/hr	moist	yellow brown	
50	1.00	Fine clayey sand and silty sand (SC-SM)		Very moist	yellow brown	faint blackish
		with abuntant clay films, no structure	K=1.25 in/hr			
48	3.00	Fine silty sand (SM) with trace clay (>5%)		moist	lt yellow brown	faint, uniform red
47.5	3.50	non-compacted coarse silty sand (SM)	K=2.0 in/hr	moist	lt tan to lt br	n/a
46.5	4.50	Medium grained coarse silty sand and		semi-moist	lt br to golden	n/a
		poorly graded sand (SP-SM)	≥ 2 in/hr			

APPENDIX D
Calculations

Spray field calculations to be included with the new Nutrient Management Plan

Calculations are based on the following parameters:

- The subject spray field is 4.1 acres.
- Bojac soil series – slope 0-2% (BkA)
- Munden soil series – slope 0-2% (MuA)
- The "crop" is a year round permanent stand of tall fescue.

Potential Evapotranspiration Calculations

Month	Air Temp (Avg °C/Day)	Sunshine Factor [b]	Heat Index [i]	P.E.T. (cm)	P.E.T. (in)
JAN	2	0.86	0.25	0.15	0.06
FEB	4	0.84	0.71	0.52	0.20
MAR	10	1.03	2.85	2.65	1.04
APR	13	1.10	4.23	4.51	1.78
MAY	16	1.22	5.79	6.90	2.72
JUN	23	1.23	10.02	13.09	5.15
JUL	24	1.25	10.95	13.85	5.45
AUG	25	1.17	11.71	13.94	5.49
SEP	22	1.04	5.52	10.26	4.04
OCT	22	0.97	9.37	9.27	3.65
NOV	14	0.85	4.73	3.94	1.55
DEC	12	0.83	3.75	2.88	1.13
		Annual Potential Evapotranspiration =		81.96	32.27

$PET = 1.62b\,[10T/i]^a$

b = sunshine factor [mean possible hours of bright sunlight(30days/12hours)]
T = mean monthly air temperature (°C)
i = Heat Index
a = empirical coefficient

Air Temp = Average daily temperature at Painter, Virginia 1955-2012

Thornthwaite, 1948

HYDRAULIC LOADING CALCULATIONS

	Jul-2011	Aug-2011	Sep-2011	**Average**
1. Monthly Precipitation (in)	5.0	4.3	4.0	**4.43**
Daily precipitation (in)	0.161	0.139	0.133	**0.14**
2. Monthly Evapotranspiration (in)	5.45	5.49	4.04	**4.99**
Daily PET (in)	0.176	0.177	0.135	**0.16**
3. Soil Percolation Rate* (mpi)				**30**
Potential daily infiltration (in/4-hr day)				**8.00**
Does infiltration capacity exceed permitted application rate (1"/day)? (Y/N)				***Y***
4. Monthly Wastewater Loading (MG)**	0.468	0.468	0.480	**0.472**
Average daily wastewater loading (MG)	0.0151	0.0151	0.0160	**0.0154**
5. Storage Requirement (MG/3-days)	0.045	0.045	0.048	**0.046**
Storage provided (MG)				**0.046**
Does loading rate exceed storage demand? (Y/N)				***N***
Land Area Requirement				
Average loading per month (MG)	0.468	0.468	0.480	**0.472**
Maximum spray depth allowed per month (in)	8	8	8	**8**
Minimum acres required	2.16	2.16	2.21	**2.17**
Acres provided		4.1		**4.1**
Does provided spray field area meet requirements? (Y/N)				***Y***
6. Monthly Storage Input/Drawdown				
Storage Input [loading] (MG)	0.468	0.468	0.480	0.472
Potential Drawdown [spraying] (MG)	0.891	0.891	0.891	0.891
Monthly Input/Drawdown Ratio	0.53	0.53	0.54	0.530
Is monthly input/drawdown ratio < 1? (Y/N)				***Y***

** Infiltration rate estimate based on soil texture.*

** From 2011 DMR

EVAPOTRANSPIRATION

The combined water losses from evaporation and vegetative transpiration are termed evapotranspiration (ET). Evaporation is relatively easy to measure using evaporative pan data, however transpiration is difficult to quantify without direct field measurements. Actual ET losses from a site are most readily estimated through calculation. The thickness (relative depth) of soil water loss through ET can, however, be empirically determined. When this thickness is multiplied by an area, a volume of water loss may be calculated.

Thornthwaith (1948) developed a relationship for monthly potential evapotranspiration (PET) based on an a heat index and empirical coefficients for available sunshine and crop transpiration. Braas (1990) simplified the equation to:

$$PET = 1.62b \times [10T/I]^a$$

where, b is an adjustment factor for daily available sunshine, T is the mean monthly temperature (°C), I is the annual heat index, and a is a relative parameter based on I.

The Thornthwaite approach assumes that the soil water available for ET is not limited. Therefore, this calculation yields potential evapotranspiration (PET) which is an estimation of a maximum thickness of soil water loss.

Results of the PET calculations estimate the monthly relative thickness of water loss. These monthly thicknesses were multiplied by the area of the YYYYYY (Z.ZZ ac,ft²) and the resultant volumes added together to calculate the approximate annual volume of its' evapotranspirative losses. The total estimated annual volume of water loss through PET at YYYYYYY YYYYYYY is ZZ.ZZ gal/ft². A data listing and monthly breakdown of PET quantities is provided *******.

Braas, R.L., 1990. Hydrology: an introduction to hydrologic science. New York: Addison-Wesley Publishing Company. pp 224-225.

Thornthwaite, C.W., 1948. An approach toward a rational classification of climate. *Am. Geogr. Rev.* 38:55-94

APPENDIX E
Additional Notes

MSA, P.C.
5033 Rouse Drive, Virginia Beach, VA 23462-3708 • (757) 490-9264 • (757) 490-0634 [fax] • www.msaonline.com
Offices in Hampton Roads and Virginia's Eastern Shore
Environmental Sciences • Planning • Surveying • Civil & Environmental Engineering • Landscape Architecture

A REQUEST FOR MONITORING WAIVER

A waiver is requested for monitoring requirements identified in the Virginia Pollution Abatement renewal application of the subject permitted facility.

The facility is a tomato washing operation where chlorinated groundwater is used to facilitate the washing and packaging of agricultural products. In this case tomatoes are the sole product processed. The VPA permit covers the land disposal of spent wash water and tomato culls.

Given the nature of the spray operation, waivers for several of the monitoring parameters listed on the permit application are requested. Waiver requests for parameters listed on Form C section 4.a. of the application, along with justifications for the effluent stream are listed in Table I.

Table I Effluent Stream Monitoring

Parameter	**Wavier Rational**
BOD mg/L	Generally associated with high concentrations of nitrogen where biological activity would create a high O2 demand. Is of a particular concern if being discharged to surface waters. The effluent stream does not have high levels of nutrients and in not surface water applied.
COD mg/L	Oxygen demand of organic and inorganic substances as measured by indicator chemicals. Water is too free from organic substances to expect elevated COD. Is of a particular concern if being discharged to surface waters. The effluent stream is not industrial in nature and is not discharged to surface waters.
TOC mg/L	The amount of organic carbon in the effluent stream is not reasonably expected to be at a level that would negatively impact non-aquatic environments.
TSS mg/L	Solids in the effluent stream are not apparent and settled out in the storage tanks. Given the nature of the spray operations any solids present are not expected to reach and impact surface waters.
Percent Solids (%)	Not anticipated to be a factor. Solids will settle out in holding tanks.

Table II Soil Monitoring

Parameter	**Wavier Rational**
Soil Organic Matter (%)	Relative to crop requirements, the effluent stream is deficient in N, which allows for a healthful accumulation of organic material.
Organic Nitrogen (ppm)	Total nitrogen is inclusive. Wash water rinses fruit and does not pick up organic material that might elevate organic nitrogen. Potential concentration is expected to be very low.
Ammonia Nitrogen (ppm)	Not anticipated in effluent stream
Available Phosphorus (ppm)	Not anticipated in effluent stream
Exchangeable Magnesium (mg/100g)	Not anticipated in effluent stream
Copper (ppm)	Calculated loading provides a better estimate of accumulation
Nickel (ppm)	Not anticipated in effluent stream
Zinc (ppm)	Calculated loading provides a better estimate of accumulation
Cadmium (ppm)	Not anticipated in effluent stream
Lead (ppm)	Not anticipated in effluent stream
Chromium (ppm)	Not anticipated in effluent stream
Manganese (ppm)	Not anticipated in effluent stream
Particle Size Analysis or USDA Textural Estimate (%)	Soil type and composition was determined during initial application. Soils well characterized.

APPENDIX F
References

BkA—Bojac sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Landscape position: Nearly level and undulating surfaces
Size of areas: 5 to 1,200 acres

Composition

Bojac and similar soils: 85 to 95 percent
Dissimilar inclusions: 5 to 15 percent

Inclusions

Dissimilar inclusions:
• Dragston soils, which have a grayer subsoil than the Bojac soil; on the rims of depressions, on flats, and in depressions

Similar soils:
• Soils that have about 2 to 15 percent gravel in the subsoil and about 5 to 50 percent gravel in the substratum; in landscape positions similar to those of the Bojac soil

Typical Profile

0 to 7 inches—brown sandy loam
7 to 27 inches—strong brown loam
27 to 33 inches—strong brown sandy loam
33 to 40 inches—strong brown loamy sand
40 to 85 inches—pale brown sand

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Low
Organic matter content: Low
Soil reaction: Extremely acid to slightly acid in the surface layer and subsoil, very strongly acid to moderately acid in the substratum
Natural fertility: Low
Surface runoff: Slow
Hazard of water erosion: Low
Hazard of wind erosion: Medium
Depth to water table: 48 to 72 inches
Root zone: More than 60 inches
Shrink-swell potential: Low
Corrosivity: To concrete—high; to steel—low

Use and Management

Cropland

Suitability for cultivated crops: Well suited
Suitability for nursery crops: Well suited (fig. 7)
Management concerns:
• Droughtiness, which can be overcome by applying irrigation water
• The hazard of wind erosion, which can be reduced by establishing windbreaks, leaving plant residue on the surface, and using a conservation tillage system
• Low content of organic matter, which can be increased by incorporating plant residue into the soil

Pasture

Suitability for grasses and legumes: Well suited
Management concerns:
• Droughtiness, which can be overcome by applying irrigation water

Woodland

Potential productivity for loblolly pine: High
Site index for loblolly pine: 80
Estimated annual production of loblolly pine: 115 cubic feet per acre
Management concerns:
• No major concerns

Septic tank absorption fields

Suitability: Well suited
• Seasonal wetness, which can be reduced by placing the absorption field above the high water table

Building sites

Suitability: Well suited
Management concerns:
• Sloughing, which can be prevented by shoring excavation walls
• Wetness, which can be reduced by installing a drainage system
• Droughtiness, which can be overcome by applying irrigation water

Recreational areas

Suitability: Well suited
Management concerns:
• No major concerns

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 8A

Bojac Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Parent material: Unconsolidated sediments
Slope range: 0 to 6 percent

Typical Pedon

Bojac sandy loam, 0 to 2 percent slopes, about 1.3 miles south-southeast of the junction of U.S. Highway 13 (business route) and Virginia Highway 605 and 1.5 miles south-southwest of the junction of U.S. Highway 13 (business route) and Virginia Highway 652, near Accomac:

Ap—0 to 7 inches; brown (10YR 4/3) sandy loam; weak medium granular structure; friable, slightly sticky and slightly plastic; few fine roots; strongly acid; abrupt smooth boundary.

Bt1—7 to 27 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Bt2—27 to 33 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; many distinct clay bridges between sand grains; few faint clay films in pores; strongly acid; gradual smooth boundary.

Bt3—33 to 40 inches; strong brown (7.5YR 5/8) loamy sand; weak coarse subangular blocky structure; very friable; many distinct clay bridges between sand grains; strongly acid; gradual smooth boundary.

C—40 to 85 inches; pale brown (10YR 6/3) sand; single grain; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 65 inches
Soil reaction: Extremely acid to slightly acid in the A, E, and Bt horizons, very strongly acid to moderately acid in the C horizon
Content of coarse fragments: 0 to 5 percent in the solum and 0 to 15 percent in the C horizon

A horizon (not in all pedons):
- Hue—7.5YR to 2.5Y
- Value—3 or 4
- Chroma—1 to 3
- Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Ap horizon:
- Hue—7.5YR to 2.5Y
- Value—4 to 6
- Chroma—1 to 4
- Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

E horizon (not in all pedons):
- Hue—10YR or 2.5Y
- Value—4 to 7
- Chroma—4 to 6
- Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—4 to 8
- Texture—sandy loam, fine sandy loam, or loam
- Other features—a thin subhorizon of sandy clay loam or clay loam in some pedons, a lower subhorizon of loamy sand or loamy fine sand in other pedons

C horizon:
- Hue—7.5YR to 2.5Y
- Value—4 to 7
- Chroma—3 to 8
- Other features—high-chroma mottles, low-chroma mottles, or both in many pedons
- Texture—stratified coarse sand, sand, fine sand, loamy coarse sand, loamy sand, or loamy fine sand

DrA—Dragston fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Landscape position: Rims of depressions, flats, and depressions
Size of areas: 5 to 150 acres

Composition

Dragston and similar soils: 85 to 95 percent
Dissimilar inclusions: 5 to 15 percent

Inclusions

Dissimilar inclusions:
- Arapahoe soils, which have a darker surface layer than the Dragston soil; on flats and in depressions
- Seabrook soils, which have a less developed subsoil than the Dragston soil; in nearly level, slightly elevated areas

Similar soils:
- Munden soils, which have a browner subsoil than the Dragston soil; in nearly level, slightly elevated areas
- Soils that have about 2 to 15 percent gravel in the subsoil and about 5 to 50 percent gravel in the substratum; in landscape positions similar to those of the Dragston soil

Typical Profile

0 to 6 inches—dark grayish brown fine sandy loam
6 to 15 inches—light olive brown loam that has light brownish gray and strong brown mottles
15 to 30 inches—gray loam that has yellowish red mottles
30 to 40 inches—gray fine sandy loam that has yellowish red mottles
40 to 85 inches—light gray fine sand that has yellowish red and brownish yellow mottles

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Moderately rapid in the subsoil and rapid in the substratum
Available water capacity: Moderate
Organic matter content: Low
Soil reaction: Very strongly acid or strongly acid in the surface layer and the upper part of the subsoil, very strongly acid to slightly acid in the lower part of the subsoil and in the substratum
Surface runoff: Slow
Hazard of water erosion: Low
Hazard of wind erosion: Medium
Depth to water table: 12 to 30 inches
Root zone: More than 60 inches
Shrink-swell potential: Low
Corrosivity: To concrete—high; to steel—low

Use and Management

Cropland

Suitability for cultivated crops: Moderate
Suitability for nursery crops: Moderate
Management concerns:
- Wetness, which can be reduced by installing a drainage system
- Low content of organic matter, which can be increased by incorporating plant residue into the soil
- The hazard of wind erosion in drained areas, which can be reduced by establishing windbreaks, leaving plant residue on the surface, and using a conservation tillage system

Pasture

Suitability for grasses and legumes: Moderate
Management concerns:
- Wetness, which can be reduced by installing a drainage system

Woodland

Potential productivity for loblolly pine: Very high
Site index for loblolly pine: 86
Estimated annual production of loblolly pine: 123 cubic feet per acre
Management concerns:
- Wetness

Septic tank absorption fields

Suitability: Poor
Management concerns:
- Wetness, which can be reduced by providing a drainage system and placing the absorption field above the level of the seasonal high water table
- Poor filtering capacity, which can be overcome by increasing the size of the field

Building sites

Suitability: Poor
Management concerns:
- Wetness, which can be reduced by installing a drainage system
- Sloughing, which can be prevented by shoring excavation walls
- Droughtiness, which can be overcome by applying irrigation water

Recreational areas

Suitability: Poor
Management concerns:
- Wetness

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 9W

EXHIBIT 7 CONT.

Dragston Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately rapid in the subsoil, rapid in the substratum
Parent material: Unconsolidated sediments
Slope range: 0 to 2 percent

Typical Pedon

Dragston fine sandy loam, 0 to 2 percent slopes, about 0.7 mile south-southwest of the junction of Virginia Highways 693 and 793 and 1.2 miles north-northeast of the junction of Virginia Highways 692 and 693, near Hallwood:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; friable, slightly sticky and slightly plastic; common fine roots; very strongly acid; clear smooth boundary.

Bt—6 to 15 inches; light olive brown (2.5Y 5/6) loam; many medium distinct light brownish gray (10YR 6/2) and strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Btg1—15 to 30 inches; gray (10YR 6/1) loam; many medium distinct yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Btg2—30 to 40 inches; gray (10YR 6/1) fine sandy loam; many medium distinct yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few fine roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Cg—40 to 85 inches; light gray (10YR 7/2) fine sand; many medium distinct yellowish red (5YR 5/6) and brownish yellow (10YR 6/6) mottles; single grain; loose; very strongly acid.

Range in Characteristics

Thickness of the solum: 25 to 50 inches
Soil reaction: Very strongly acid or strongly acid in the Ap and Bt horizons, very strongly acid to slightly acid in the Btg and Cg horizons
Content of coarse fragments: 0 to 2 percent in the solum, 0 to 10 percent in the Cg horizon

A horizon (not in all pedons):
Hue—10YR to 5Y
Value—2 to 5
Chroma—1 to 4
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Ap horizon:
Hue—10YR to 5Y
Value—2 to 5
Chroma—1 to 4
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—3 to 8
Other features—high- and low-chroma mottles
Texture—sandy loam, fine sandy loam, or loam

Btg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Other features—high- and low-chroma mottles
Texture—sandy loam, fine sandy loam, or loam

Cg horizon:
Hue—10YR to 5BG or neutral
Value—4 to 7
Chroma—0 to 2
Other features—high- and low-chroma mottles
Texture—sand, fine sand, loamy sand, or loamy fine sand

MuA—Munden sandy loam, 0 to 2 percent slopes

Setting

Landform: Coastal-plain uplands and stream terraces
Landscape position: Nearly level surfaces
Size of areas: 5 to 300 acres

Composition

Munden and similar soils: 85 to 95 percent
Dissimilar inclusions: 5 to 15 percent

Inclusions

Dissimilar inclusions:
• Nimmo soils, which have a grayer subsoil than the Munden soil; on flats and in depressions

Similar soils:
• Seabrook soils, which have a sandier subsoil than the Munden soil; in landscape positions similar to those of the Munden soil
• Soils that have about 5 to 35 percent gravel in the subsoil and substratum; in landscape positions similar to those of the Munden soil

Typical Profile

0 to 8 inches—dark grayish brown sandy loam
8 to 20 inches—yellowish brown loam
20 to 25 inches—yellowish brown sandy loam that has reddish yellow and pale brown mottles
25 to 40 inches—yellowish brown sandy loam that has reddish yellow and light gray mottles
40 to 55 inches—mottled pale brown and grayish brown loamy sand
55 to 85 inches—grayish brown fine sand

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderately rapid in the subsoil, moderately rapid or rapid in the substratum
Available water capacity: Low
Organic matter content: Low
Soil reaction: Very strongly acid to moderately acid
Natural fertility: Low
Surface runoff: Slow
Hazard of water erosion: Low
Hazard of wind erosion: High
Depth to water table: 18 to 30 inches
Root zone: More than 60 inches
Shrink-swell potential: Low
Corrosivity: To concrete—high; to steel—low

Use and Management

Cropland

Suitability for cultivated crops: Well suited
Suitability for nursery crops: Well suited (fig. 12)
Management concerns:
• Wetness early in the growing season, which can be reduced by installing a drainage system
• Droughtiness later in the growing season, which can be overcome by applying irrigation water
• Low content of organic matter, which can be increased by incorporating plant residue into the soil

Pasture

Suitability for grasses and legumes: Well suited
Management concerns:
• Wetness

Woodland

Potential productivity for loblolly pine: Very high
Site index for loblolly pine: 90
Estimated annual production of loblolly pine: 130 cubic feet per acre
Management concerns:
• Wetness

Septic tank absorption fields

Suitability: Moderate
Management concerns:
• Wetness, which can be reduced by placing the absorption field above the level of the seasonal high water table
• Poor filtering capacity, which can be overcome by increasing the size of the field

Building sites

Suitability: Well suited
Management concerns:
• Sloughing, which can be prevented by shoring excavation walls
• Wetness, which can be reduced by installing a drainage system
• Droughtiness, which can be overcome by applying irrigation water

Recreational areas

Suitability: Well suited
Management concerns:
• Wetness, droughtiness

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

EXHIBIT 7 CONT.

Munden Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately rapid in the subsoil, moderately rapid or rapid in the substratum
Parent material: Unconsolidated sediments
Slope range: 0 to 2 percent

Typical Pedon

Munden sandy loam, 0 to 2 percent slopes, 0.8 mile south-southeast of the junction of Virginia Highways 658 and 682 and 1.2 miles west-southwest of the junction of Virginia Highways 681 and 316, near Bloxom:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) sandy loam; weak medium granular structure; friable, slightly sticky and slightly plastic; common fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—8 to 20 inches; yellowish brown (10YR 5/6) loam; common medium distinct reddish yellow (7.5YR 6/8) mottles; weak medium subangular blocky structure; friable, sticky and slightly plastic; common fine and medium roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Bt2—20 to 25 inches; yellowish brown (10YR 5/6) sandy loam; common medium distinct reddish yellow (7.5YR 6/8) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable, sticky and slightly plastic; few fine roots; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

Bt3—25 to 40 inches; yellowish brown (10YR 5/6) sandy loam; many medium distinct reddish yellow (7.5YR 6/8) and light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; many distinct clay bridges between sand grains; few faint clay films in pores; very strongly acid; gradual smooth boundary.

C—40 to 55 inches; mottled pale brown (10YR 6/3) and grayish brown (10YR 5/2) loamy sand; single grain; loose; strongly acid; gradual smooth boundary.

Cg—55 to 85 inches; grayish brown (10YR 5/2) fine sand; single grain; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 25 to 45 inches
Soil reaction: Very strongly acid to moderately acid
Content of coarse fragments: 0 to 5 percent

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 4
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Upper part of the Bt horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, or loam

Lower part of the Bt horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—3 to 8
Texture—sandy loam, fine sandy loam, or loam

Btg horizon (not in all pedons):
Hue—7.5YR to 2.5Y or neutral
Value—3 to 6
Chroma—0 to 2
Texture—sandy loam, fine sandy loam, or loam; subhorizons of sandy clay loam

C horizon:
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—3 to 8
Other features—mottles that have chroma of 0 to 8
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam

Cg horizon:
Hue—7.5YR to 5Y or neutral
Value—5 to 7
Chroma—0 to 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam

AUTHORIZATION TO BILL APPLICANT FOR A PUBLIC NOTICE FOR DEL MONTE FRESH PRODUCTION INC PROCESSING PLANT, MAPPSVILLE VA RE: PERMIT NO. VPA01057

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in the: **EASTERN SHORE NEWS**

Agent/Department to be billed: Albert Garcia, General Manager of Tomato Operations
Del Monte Fresh Production, Inc

Applicant's Address: 5050 State Route 60W, Mulberry, FL 33860

Agent's Telephone No: 863-844-5845

I AM ALSO AUTHORIZING THE EASTERN SHORE NEWS TO SEND THE AFFIDAVIT TO:

DEQ TIDEWATER REGIONAL OFFICE
ATTN: WATER PERMITS
5636 SOUTHERN BOULEVARD
VIRGINIA BEACH, VA 23462

Authorizing Agent/Date Signed: Paul J. Rice 6/3/14
Print Name/Date Signed

Authorizing Agent's Signature: Paul J. Rice
Signature

Authorizing Agent's E-Mail Address: price@freshdelmonte.com

RETURN COMPLETED FORM TO: DEQ – Tidewater Regional Office
Water Permits
5636 Southern Boulevard
Virginia Beach, VA 23462

Cc: **(DEQ ECM FILE VPA01057)**